

Dust obscuration in galaxies: what do we learn from AKARI, SPITZER and Herschel surveys?

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Dust attenuation is known to be the major cause of uncertainty to measure star formation rates from the observed UV-optical emission of galaxies.

The best way to constrain this dust attenuation is to combine IR (dust emitting) emission with the observed luminosity emitted by young stars. Thanks to the huge harvest of telescopes like Spitzer, AKARI or Herschel such a cross-correlation is feasible on large samples of galaxies, from the nearby to the high redshift universe.

I will report about the recent results on dust obscuration in galaxies obtained with AKARI/GALEX, SPITZER/GALEX and Herschel/Optical surveys. I will focus on UV (rest-frame) selected galaxies from $z=0$ to $z=1.5$. I will discuss several topics: the measure of the amount of dust attenuation, the obscuration law at work in these galaxies with a UV bump detected in a large fraction of these objects and the variation of dust attenuation as a function of parameters like the observed UV luminosity or the stellar mass. I will also discuss the validity of the slope of the UV continuum to measure dust attenuation in galaxies without IR data.